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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/049,627	04/16/2002	Ah Hwee Tan	P21834	7768

7055 7590 09/04/2008

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EXAMINER	
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ART UNIT	PAPER NUMBER
2129	

NOTIFICATION DATE	DELIVERY MODE
09/04/2008	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No.	Applicant(s)	
	10/049,627	TAN ET AL.	
	Examiner	Art Unit	
	PETER COUGHLAN	2129	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *19 June 2008*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-4,9-14,19-21,23,24 and 26-29* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-4,9-14,19-21,23,24 and 26-29* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *4/16/2002* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

Detailed Action

1. This office action is in response to an AMENDMENT entered May 21, 2008 for the patent application 10/049627 filed on February 22, 2002.

2. All previous Office Actions are fully incorporated into this Non-Final Office Action by reference.

Status of Claims

3 Claims 5-8, 15-18, 22, 25 are cancelled.

Claims 1-4, 9-14, 19-21, 23-24, 26-29 are pending.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1 and 19 are rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential steps, such omission amounting to a gap between the steps. See MPEP § 2172.01. The omitted steps are between the classifier being

switched to the knowledge acquisition mode when a document has been determined to be misrouted. How does the invention determine when to switch mode? How does the invention determine know when a document is misrouted? How are these two functions of the invention linked together?

These claims must be amended or withdrawn from consideration.

Claim 28 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. This claims states 'wherein the ARAM classifier is configured to ensure that a correctly classified document cannot be later determined to be a misrouted document.' The word 'misrouted' is not within the specification, therefore the ability to 'wherein the ARAM classifier is configured to ensure that a correctly classified document cannot be later determined to be a misrouted document' is not described within the specification.

This claim must be amended or withdrawn from consideration.

Claim 29 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had

possession of the claimed invention. Claim 29 states 'wherein, when a rule input by the user contradicts a previous rule in the knowledge base, the ARAM classifier executes the previous rule in the knowledge base in order to avoid inconsistent classifications.' This is contradictory to the specification (page 26 line 6 through p27 line 2) which states if there is a contradiction, then it is flagged 'to the users' and not 'executes the previous rule' which the applicant argues. There is no support of the claimed invention

This claim must be amended or withdrawn from consideration.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1, 2, 3, 4, 19, 26, 27, 28, 29 are rejected under 35 U.S.C. 103(a) as being unpatentable Tan ('Learning user profiles for personalized information dissemination', referred to as **Tan**)

Claim 1

Tan teaches a classifier, comprising a document classifier and an adaptive resonance associative map (ARAM) classifier (**Tan,** Abstract), that processes the document based on extracted features in a knowledge acquisition mode (**Tan,** p183 C2:13-20, 'Feature extractor' of applicant is demonstrated by 'semantic features' of Tan. 'Knowledge acquisition mode' of applicant is equivalent to 'learn' of Tan.) in which an association of a classification with each document in incrementally added to a knowledge base and in a document classification mode in which ARAM classifier, using the knowledge base, determines a predicted classification for the document (**Tan,** p185, C1:1 through C2:7, p183 C2:21-37; 'Knowledge base' of applicant is disclosed by 'personal profiles' of Tan. 'Incrementally added' of applicant is disclosed by 'incremental mode' of Tan. 'Predicted classification' of applicant is illustrated by the generation of 'personalized information network' of Tan.) and a router that is configured to route the document to one of a plurality of destinations (**Tan,** p183 C1:28-37; A 'router' of applicant is inherent in Tan due to the fact that 'the information most relevant to a user is identified and presented' of Tan. To present to a specific user, a 'router' is needed.) based upon the classification associated with a confidence value, and is configured to compare the confidence value to a threshold value (**Tan,** p183 C1:28-37; If Tan can forward the information most relevant to a user, then it is inherent that some confidence and threshold values are employed. Tan does not state that the 'relevant information' is broadcast to all users.); wherein the classifier is configured to correctly classify a misrouted document by switching between the document classification mode and the knowledge acquisition mode based upon a learn instruction, or a classify instruction,

inputted by the user (**Tan,** p186 C2:13 through p187 C1:16; Correctly classify a document by switching from classification mode to knowledge acquisition mode of applicant is covered by being able to provide feedback on a given article.); wherein the confidence value exceeds the threshold value, the document is routed to a destination specified by the predicted classification for automatic routing without the user inputting classification rules for the document (**Tan,** p183 C1:28-37; If Tan can forward the information most relevant to a user, then it is inherent that some confidence and threshold values are employed. Tan does not state that the 'relevant information' is broadcast to all users. It is inherent that this is done automatically within Tan.); and wherein, when the confidence value does not exceed the threshold value, the document is determined to be a misrouted document, the user determines the correct classification of the document and the document is forwarded to a learning module with the correct classification (**Tan,** p186 table 1, p186 C2:13 through p187 C1:16; 'The user determines the correct classification … and is forwarded to the learning module' of applicant is illustrated by the user providing feedback to a document. 'Forward to a learning module' of applicant is disclosed by 'to learn the user's feedback on an article, the feature vector a and the relevance vector b are complement coded to form the ARTa input vector A and ARTb input vector B respectively, before they are presented to the user's ARAM profile network' of Tan.); and wherein, when the learning module determines a contradiction between the predicted classification and the correct classification, the learning module revises the knowledge base automatically without the user inputting classification rules for the document. (**Tan,** p185 C1:23-40; Resolving

contradictions between users rules and the knowledge base is disclosed by 'As both user defined and system learned knowledge are presented in a single system, any inherent conflict or inconsistency can be resolved through ARAM's code competition and template learning mechanisms' of Tan.)

Claim 2

Tan teaches wherein the classifier comprises a supervised adaptive resonance theory (ART) system. (**Tan,** Abstract)

Claim 3

Tan teaches wherein the system comprises an ARTMAP system. (**Tan,** p184 C1:3-11; 'ARTMAP' of applicant is equivalent to 'ARTMAP' of Tan.)

Claim 4

Tan teaches wherein the system comprises an adaptive resonance associative map (ARAM) system. (**Tan,** Abstract)

Claim 19

Tan teaches a classifier, comprising an adaptive resonance associative map (ARAM) classifier (**Tan,** Abstract), that is configured to correctly classify the misrouted document by switching between a document classification mode and a knowledge acquisition mode based upon a learn instruction or a classify instruction, input by the

user(**Tan,** p186 C2:13 through p187 C1:16; Correctly classify a document by switching from classification mode to knowledge acquisition mode of applicant is covered by being able to provide feedback on a given article.), wherein the user instructs the document classifier to implement a learning sub-mode of knowledge acquisition mode, and inputs a correct classification for the misrouted document to the ARAM classifier so that the misrouted document and the correct classification, associated with the misroutes document, are added to the knowledge base, (**Tan,** p186 table 1, p186 C2:13 through p187 C1:16, p185, C1:1 through C2:7, p183 C2:21-37; 'The user determines the correct classification … and is forwarded to the learning module' of applicant is illustrated by the user providing feedback to a document. 'Knowledge base' of applicant is disclosed by 'personal profiles' of Tan. 'Incrementally added' of applicant is disclosed by 'incremental mode' of Tan.) wherein, when the learning module determines a contradiction between the predicted classification and the correct classification, the learning module revises the knowledge base automatically without the user inputting classification rules for the document. (**Tan,** p185 C1:4-14; Revising the knowledge base without user inputting classification rules of applicant is disclosed by 'In addition, ARAM learning is on line as it does not need to go through the training examples many times to learn knowledge' of Tan.

Claim 26

Tan teaches wherein the ARAM classifier derives the confidence value based on either a distributed category prediction strategy or a voting strategy. (**Tan,** p186 C1:14-

23; 'Confidence value' based on prediction or voting of applicant is disclosed by an interest term Tan generates a relevance vector. The 'voting strategy' of applicant is disclosed by x_m of Tan.)

Claim 27

Tan teaches wherein the document classifier adjusts an input baseline vigilance parameter and an output vigilance parameter of the ARAM classifier, based on the instruction selected by the user. (**Tan,** p184, C2:13-17; 'Vigilance parameter' of applicant is equivalent to 'vigilance parameter' of Tan.)

Claim 28

Tan teaches wherein the ARAM classifier is configured to ensure that a correctly classified document cannot be later determined to be a misrouted document. (**Tan,** p185 C1:23-40; Resolving contradictions between users rules and the knowledge base is disclosed by 'As both user defined and system learned knowledge are presented in a single system, any inherent conflict or inconsistency can be resolved through ARAM's code competition and template learning mechanisms' of Tan. Thus a document can not be misrouted due to user's rules which are in conflict to the knowledgebase.)

Claim 29

Tan teaches wherein, when a rule input by the user contradicts a previous rule in the knowledge base, the ARAM classifier executes the previous rule in the knowledge

base in order to avoid inconsistent classifications. (**Tan,** p185 C1:23-40; When a user input rule causes a contradiction with a previous rule in a knowledge base, applicant states the apparatus 'Executes previous rule.' This is disclosed by Tan due to both the 'user defined' and 'system learned knowledge' is represented in a single system. Thus conflicts or inconsistency can be resolved through ARAM's code competition and template learning mechanisms.)

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 9, 20, 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tan in view of Masand et al. (U. S. Patent 5251131, referred to as **Masand**)

Claim 9

Tan does not teach wherein one of the plurality of destinations is a system administrator workstation where the router is arranged to route the document for manual

routing after the manual routing decision.

Masand teaches wherein one of the plurality of destinations is a system administrator workstation where the router is arranged to route the document for manual routing after the manual routing decision. (**Masand,** C23:66 through C24:9; 'System administrator' of applicant is equivalent to 'human experts' of Masand.) It would have been obvious to a person having ordinary skill in the art at the time of applicant's invention to modify the teachings of Tan by having a system administrator as taught by Masand to have wherein one of the plurality of destinations is a system administrator workstation where the router is arranged to route the document for manual routing after the manual routing decision.

For the purpose of having a consistence evaluator by having only one system administrator.

Claim 20

Tan does not teach wherein the threshold is adjustable to match a desired confidence value to allow transition from a state where manual routing is favored to a state that favors automatic routing.

Masand teaches wherein the threshold is adjustable to match a desired confidence value to allow transition from a state where manual routing is favored to a state that favors automatic routing. (**Masand,** C23:66 through C24:44; 'Threshold is adjustable' of applicant is disclosed by being able to select a threshold of Masand.) It would have been obvious to a person having ordinary skill in the art at the time of

applicant's invention to modify the teachings of Tan by being able to adjust a threshold as taught by Masand to have wherein the threshold is adjustable to match a desired confidence value to allow transition from a state where manual routing is favored to a state that favors automatic routing.

For the purpose of the user to reduce or increase the amount of relative information which the user wishes to receive.

Claim 21

Tan does not teach wherein the user is a system administrator workstation coupled to the feature extractor and the classifier.

Masand teaches wherein the user is a system administrator workstation coupled to the feature extractor and the classifier. (**Masand,** C23:66 through C24:9, abstract; 'System administrator' of applicant is equivalent to 'human experts' of Masand. A 'classifier' of applicant is disclosed by the invention of Masand. 'Feature extractor' of applicant is demonstrated by 'features are extracted' of Masand.) It would have been obvious to a person having ordinary skill in the art at the time of applicant's invention to modify the teachings of Tan by have the feature extractor connected to the system administrator as taught by Masand to have wherein the user is a system administrator workstation coupled to the feature extractor and the classifier.

For the purpose of the system administrator to use the benefits of the feature extractor and classifier.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 10-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Tan in view of Register. (U. S. Patent 5371807, referred to as **Register**)

Claim 10

Tan does not teach wherein the features are formed into a feature vector for input to the classifier.

Register teaches wherein the features are formed into a feature vector for input to the classifier. (**Register,** C8:60 through C9:23; 'Features' of applicant is equivalent to 'keywords' of Register. 'Feature vector' of applicant is equivalent to 'n-dimensional vector' of Register.) It would have been obvious to a person having ordinary skill in the art at the time of applicant's invention to modify the teachings of Tan by putting

information into vector form as taught by Register to have wherein the features are formed into a feature vector for input to the classifier.

For the purpose of having inputted data into a form which maps to a neural network.

Claim 11

Tan does not teach wherein the features comprise at least one of classification-associated words and phrases which may appear in the document.

Register teaches wherein the features comprise at least one of classification-associated words and phrases which may appear in the document. (**Register,** C8:60 through C9:23; 'Features comprise … classification-associated words' of applicant is equivalent to 'keywords' of Register.) It would have been obvious to a person having ordinary skill in the art at the time of applicant's invention to modify the teachings of Tan by using keywords and phrases as taught by Register to have wherein the features comprise at least one of classification-associated words and phrases which may appear in the document.

For the purpose of narrowing the scope of the classification by using the classification-associated words and phrases.

Claim 12

Tan does not teach wherein the feature extractor is arranged to provide a measure of the frequency of occurrence of the features in the document.

Register teaches wherein the feature extractor is arranged to provide a measure of the frequency of occurrence of the features in the document. (**Register,** C8:60 through C9:23; 'Frequency' of applicant is equivalent to 'frequency' of Register.) It would have been obvious to a person having ordinary skill in the art at the time of applicant's invention to modify the teachings of Tan by using frequency as a measure as taught by Register to have wherein the feature extractor is arranged to provide a measure of the frequency of occurrence of the features in the document.

For the purpose of using the value of the frequency as a direct correlation towards a specific classification.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 13, 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tan in view of Masand et al and further in view of Kamel et al. (U. S. Patent 5251131, referred to as **Masand**; U. S. Patent 5937037, referred to as **Kamel**)

Claim 13

Tan does not teach wherein the destinations include a system administrator workstation to which the other destinations are connected.

Masand teaches wherein the destinations include a system administrator workstation to which the other destinations are connected. (**Masand,** C23:66 through C24:9; 'System administrator' of applicant is equivalent to 'human experts' of Masand.) It would have been obvious to a person having ordinary skill in the art at the time of applicant's invention to modify the teachings of Tan by having the system administrator connected to other users as taught by Masand to have wherein the destinations include a system administrator workstation to which the other destinations are connected.

For the purpose of the system administrator being able to forward documents to other users.

Tan and Masand do not teach misrouted documents being sendable by the other destinations to the system administrator workstation for manual routing.

Kamel teaches misrouted documents being sendable by the other destinations to the system administrator workstation for manual routing. (**Kamel,** C29:66 through C30:4; 'Misrouted documents being sendable' of applicant is illustrated by a 'loop feedback system' of Kamel.) It would have been obvious to a person having ordinary

skill in the art at the time of applicant's invention to modify the combined teachings of Tan and Masand by illustrating that documents can be misrouted as taught by Kamel to have misrouted documents being sendable by the other destinations to the system administrator workstation for manual routing.

For the purpose of not losing documents which were first sent to the wrong destination.

Claim 14

Tan does not teach wherein the system administrator workstation is connected to the feature extractor and the classifier.

Masand teaches wherein the system administrator (**Masand,** C23:66 through C24:9; 'System administrator' of applicant is equivalent to 'human experts' of Masand.) workstation is connected to the feature extractor. (**Masand,** abstract, 'Feature extractor' of applicant is demonstrated by 'features are extracted' of Masand.) and the classifier. (**Masand,** abstract; A 'classifier' of applicant is disclosed by the invention of Masand.) It would have been obvious to a person having ordinary skill in the art at the time of applicant's invention to modify the teachings of Tan by having the feature extractor connected to the system administrator as taught by Masand to have wherein the system administrator workstation is connected to the feature extractor and the classifier.

For the purpose of the system administrator being able to use the results of the feature extractor and classifier.

Tan and Masand do not teach the arrangement being such that a misrouted document, in association with an actual classification supplied at the system administrator workstation.

Kamel teaches the arrangement being such that a misrouted document, in association with an actual classification supplied at the system administrator workstation. (**Kamel,** C29:66 through C30:4; 'Misrouted documents being sendable' of applicant is illustrated by a 'loop feedback system' of Kamel.) It would have been obvious to a person having ordinary skill in the art at the time of applicant's invention to modify the combined teachings of Tan and Masand by classifying misrouted documents by the system administrator as taught by Kamel to have the arrangement being such that a misrouted document, in association with an actual classification supplied at the system administrator workstation.

For the purpose of improving the knowledge system which reduces the system administrator's work load.

Tan does not teach processed in the knowledge acquisition mode to add the association of the actual classification with the misdirected document to the knowledge base.

Masand teaches processed in the knowledge acquisition mode to add the association of the actual classification with the misdirected document to the knowledge base. (**Masand,** C1:65 through C2:10, C29:63 through C30:39; An example of a 'Knowledge acquisition mode' of applicant is equivalent to 'set of rules' and 'training data' of Masand.) It would have been obvious to a person having ordinary skill in the art

at the time of applicant's invention to modify the teachings of Tan by having incremental increase of the knowledge base without administrator input as taught by Masand to processed in the knowledge acquisition mode to add the association of the actual classification with the misdirected document to the knowledge base.

For the purpose of the system being able to train itself with improvements

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 23, 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tan in view of Mathias and further in view of Masand et al. (U. S. Patent 6480627, referred to as **Mathias**; U. S. Patent 5251131, referred to as **Masand**)

Claim 23

Tan does not teach wherein when a document has been determined to be misrouted, the system administrator classifies the misrouted document to provide an actual classification.

Mathias teaches wherein when a document has been determined to be misrouted, the system administrator classifies the misrouted document to provide an actual classification. (**Mathias,** C9:29-51; 'Administrator … provide an actual classification' of applicant is equivalent to 'each evaluation image is typically provided by a human' of Mathias.) It would have been obvious to a person having ordinary skill in the art at the time of applicant's invention to modify the teachings of Tan by classifying misrouted documents as taught by Mathias to have wherein when a document has been determined to be misrouted, the system administrator classifies the misrouted document to provide an actual classification.

For the purpose of increasing the knowledge base to reduce manual classification by the system administrator.

Claim 24

Tan and Mathias do not teach wherein the classifier adds an association to the actual classification.

Masand teaches wherein the classifier adds an association to the actual classification. (**Masand,** C29:63 through C30:39, abstract; 'Adds an association' of applicant is equivalent to 'piecemeal approach' of Masand.) It would have been obvious to a person having ordinary skill in the art at the time of applicant's invention to modify

the combined teachings of Tan and Mathias by having an association to a classification as taught by Masand to have wherein the classifier adds an association to the actual classification.

For the purpose of ranking a document within a classification domain.

Response to Arguments

5. Applicant's arguments filed on May 21, 2008 for claims 1-4, 9-14, 19-21, 23-24, 26-29 have been fully considered but are not persuasive.

6. In reference to the Applicant's argument:

Claim Rejections under 35 U.S.C. § 112, second paragraph

The Office Action rejects claims 1 and 19 under 35 U.S.C. § 112, second paragraph, as allegedly being incomplete for omitting essential steps. Specifically, the Examiner asserted that is it unclear how the claimed invention determines when a document is misrouted. Without agreeing with or acquiescing to the rejection, Applicants note that the claims have been amended to address the Examiner's concerns. Applicants respectfully request withdrawal of the outstanding rejections under 35 U.S.C. § 112, second paragraph.

Examiner's response:

The amended claim states that a misrouted document is determined based upon a 'learn instruction, 'insert instruction' or a 'classify instruction.' The word

'instruction' is not mentioned within the specification. The Examiner is not willing to assume what portion of specification maps to 'learn instruction, 'insert instruction' or a 'classify instruction.' If the applicant can clearly indicate definitions or explanations of what is meant by 'learn instruction, 'insert instruction' or a 'classify instruction' then the Examiner is willing to consider removal of the 35 U.S.C. §112 rejection. Office Action stands.

7. In reference to the Applicant's argument:

Claim Rejections under 35 U.S.C. § 103(a)
The Office Action maintains the rejection of claims 1, 9, 13, 14, 19-24 under 35 U.S.C. § 103(a) over Masand et al. (U.S. Patent No. 5,251,131, hereinafter "MASAND") in view of Mathias et al. (U.S. Patent No. 6,480,627, hereinafter "MATHIAS") and further in view of Kamel et al. (U.S. Patent No. 5,937,037, hereinafter "KAMEL"). Claims 2 and 4 are also rejected under 35 U.S.C. § 103(a) as being unpatentable over the combination of MASAND, MATHIAS, and KAMEL in view of Tan ("Learning User Profiles for Personalized Information Dissemination," hereinafter "TAN"). Furthermore, the Office Action rejects claim 3 under 35 U.S.C. § 103(a) as being unpatentable over the combination of MASAND, MATHIAS, KAMEL, TAN in view of TAN2 ("Cascade ARTMAP: Integrating Neural Computation and Symbolic Knowledge Processing," hereinafter "TAN2"). Lastly, claims 10-12 are rejected under 35 U.S.C. § 103(a) as being unpatentable over the combination of MASAND, MATHIAS, and KAMEL in view of Register (U.S. Patent No. 5,371,807, hereinafter "REGISTER.").

Initially, Applicants note that the claims recite (using claim 1 as a non-limiting example):

A computer implemented document classification apparatus, comprising: a classifier, comprising a document classifier and an adaptive resonance associative map (ARAM) classifier, that processes the document based on extracted features in a knowledge acquisition mode in which an association of a classification with each document is incrementally added to a knowledge base and in a document classification mode in which the ARAM classifier, using the knowledge base, determines a predicted classification for the document; and
a router that is configured to route the document to one of a plurality of

destinations based upon the classification associated with a confidence value, and is configured to compare the confidence value to a threshold value;
wherein the classifier is configured to correctly classify a misrouted document by switching between the document classification mode and the knowledge acquisition mode based upon a learn instruction, an insert instruction, or a classify instruction, inputted by the user;
wherein, when the confidence value exceeds the threshold value, the document is routed to a destination specified by the predicted classification for automatic routing without the user inputting classification rules for the document; and
wherein, when the confidence value does not exceed the threshold value, the document is determined to be a misrouted document and the user determines the correct classification of the document and the document is forwarded with the correct classification to a learning module; and
wherein, when the learning module determines a contradiction between the predicted classification and the correct classification, the learning module revises the knowledge base automatically without the user inputting classification rules for the document.

Without agreeing with or acquiescing to the previous rejections, Applicants note that the claims have been amended to clarify certain features of the claimed invention. Applicants submit that the cited publications fail to disclose or render obvious all of the elements of the claimed invention. For example, the primary reference in the rejection, MASAND, teaches that each misrouted document (or incorrect classification prediction) would require that a system administrator to manually encode a new rule to correctly route document (see MASAND, col. 6, lines 12-24). In contrast, the claimed invention recites that "the learning module revises the knowledge base automatically without the user inputting classification rules for the document." Thus, MASAND fails to disclose, inter alia, this feature of the claimed invention, and the other cited publications fails to cure the deficiencies of MASAND. For this reason alone, Applicants submit that all of the elements of the claimed invention are neither disclosed nor render obvious by the cited publication, and respectfully request withdrawal of the outstanding rejections.

Examiner's response:

The applicant states 'In contrast, the claimed invention recites that "the learning module revises the knowledge base automatically without the user inputting classification rules for the document." ' The phrase 'learning module' is not mentioned within the specification. Page 3, line 18 of the specification states 'the described embodiment provides a document classification apparatus which allows learning to be

performed in an incremental way by allowing a system administrator to correct document classification mistakes as they occur, the apparatus learning from these mistakes.' The specification does not disclose how the administrator corrects these mistakes. The specification does not disclose that the apparatus revises the knowledge base without user input. Page 4 lines 2-3 state 'Besides learning from training data, the apparatus also allows rules to be inserted into the learning process, leading to a more flexible learning environment.' This portion of the specification contradicts the applicant's argument of "the learning module revises the knowledge base automatically without the user inputting classification rules for the document." In addition, page 21 line 1 states 'ARAM is a family of neural networks models that performs incremental supervised learning of …' 'Supervised learning' means some user is dictating what is to be learned and not 'unsupervised learning' which is done automatically. Office Action stands.

8. In reference to the Applicant's argument:

Furthermore, Applicants note that newly added claims 28 and 29, respectively, recite that "the ARAM classifier is configured to ensure that a correctly classified document cannot be later determined to be a misrouted document" and "when a rule input by the user contradicts a previous rule in the knowledge base, the ARAM classifier executes the previous rule in the knowledge base in order to avoid inconsistent classifications." In contrast, in MASAND, it appears that when entering a new rule to correct a most recently misrouted document, the system administrator may inadvertently cause some other previously correctly-routed documents to be misrouted if they were to be submitted to MASAND's system again. In contrast with the claimed invention, there is nothing in MASAND that teaches or even suggests that the system in

MASAND is capable of determining when there is conflict between rules entered by the system administrator and previous rules in knowledge base, or taking effective remedial action as in the claimed invention. MASAND merely teaches automatic moderation of the weightings of the rule, as discussed in column 6, lines 26-46, of MASAND). Thus, MASAND fails to teach this feature of the claimed invention, and the other cited publications fails to cure the deficiencies of MASAND. For these reasons, Applicants submit that the cited publications fail to disclose or render obvious the features of claimed invention, and respectfully request withdrawal of the outstanding rejections.

Examiner's response:

Claims 28 and 29 were not in the previous office action. Applicant states "when a rule input by the user contradicts a previous rule in the knowledge base, the ARAM classifier executes the previous rule in the knowledge base in order to avoid inconsistent classifications." This is contradictory to the specification (page 26 line 6 through p27 line 2) which states if there is a contradiction, then it is flagged 'to the users' and not 'executes the previous rule' which the applicant argues.

Examination Considerations

9. The claims and only the claims form the metes and bounds of the invention. "Office personnel are to give the claims their broadest reasonable interpretation in light of the supporting disclosure. *In re Morris*, 127 F.3d 1048, 1054-55, 44USPQ2d 1023, 1027-28 (Fed. Cir. 1997). Limitations appearing in the specification but not recited in the claim are not read into the claim. *In re Prater*, 415 F.2d, 1393, 1404-05, 162 USPQ 541, 550-551 (CCPA 1969)" (MPEP p 2100-8, c 2, l 45-48; p 2100-9, c 1, l 1-4). The Examiner has the full latitude to interpret each claim in the broadest reasonable sense.

Examiner will reference prior art using terminology familiar to one of ordinary skill in the art. Such an approach is broad in concept and can be either explicit or implicit in meaning.

10. Examiner's Notes are provided to assist the applicant to better understand the nature of the prior art, application of such prior art and, as appropriate, to further indicate other prior art that maybe applied in other office actions. Such comments are entirely consistent with the intent and sprit of compact prosecution. However, and unless otherwise stated, the Examiner's Notes are not prior art but link to prior art that one of ordinary skill in the art would find inherently appropriate.

11. Examiner's Opinion: Paragraphs 9 and 10 apply. The Examiner has full latitude to interpret each claim in the broadest reasonable sense.

Conclusion

12. The prior art of record and not relied upon is considered pertinent to the applicant's disclosure.

-U. S. Patent 5943663: Mouradian

-U. S. Patent 5943662: Baba

-U. S. Patent 5870731: Trif

13. Claims 5-8, 15-18, 22, 25 are cancelled.

Claims 1-4, 9-14, 19-21, 23-24, 26-29 are rejected.

Correspondence Information

14. Any inquiry concerning this information or related to the subject disclosure should be directed to the Examiner Peter Coughlan, whose telephone number is (571) 272-5990. The Examiner can be reached on Monday through Friday from 7:15 a.m. to 3:45 p.m.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor David Vincent can be reached at (571) 272-3080. Any response to this office action should be mailed to:

Commissioner of Patents and Trademarks,

Washington, D. C. 20231;

Hand delivered to:

Receptionist,

Customer Service Window,

Randolph Building,

401 Dulany Street,

Alexandria, Virginia 22313,

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(571) 272-3150 (for formal communications intended for entry.)

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/P. C./

Examiner, Art Unit 2129

Peter Coughlan

8/22/2008

/David R Vincent/

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